

Network WQ Phases I, II & III

Examples from the
Cumberland-Piedmont Network

Phase I

- Description of Natural Resources
- Park Workshops
- Natural Resources Survey
- Water Resources Assessments

Phase I



- Park Natural Resources Workshops

Natural Resources Survey

Document1 - Microsoft Word

File Edit View Insert Format Tools Table Window Help x² x₂

Type a question for help x

Normal Times New Roman 10 B I U

Final Showing Markup Show

| PARK | PRIORITY | MANAGEMENT ISSUES | REASON |
|------|----------|---|---|
| | | ADJACENT LANDUSE IMPACTS | |
| CUGA | M | AIR RESOURCES MANAGEMENT | Acid precipitation impacts on stream biota |
| | | CONTROL OF POACHING AND THEFT OF NATURAL RESOURCES | |
| | | CULTURAL LANDSCAPE MANAGEMENT | |
| | | DISTURBED AREA REHABILITATION | |
| | | EXOTIC ANIMAL MANAGEMENT | |
| CUGA | M | EXOTIC PLANT MANAGEMENT | Many exotics in developed zone. Essentially "naturalized" and part of the cultural landscape so these are not high priority. Exotics presence in non-developed areas less well known but control would be more important if they are present. |
| CUGA | H | NATIVE AQUATIC ANIMAL MANAGEMENT AND MONITORING | Threatened <u>blackside dace</u> declining, possible negative interaction with beaver (habitat alteration) |
| | | NATIVE AQUATIC PLANT MANAGEMENT AND MONITORING | |
| | | NATIVE TERRESTRIAL ANIMAL MANAGEMENT AND MONITORING | |
| | | NATIVE TERRESTRIAL PLANT MANAGEMENT AND MONITORING | |
| CUGA | H | PEST AND HAZARD MANAGEMENT | Forest pests, e.g <u>hemlock wooly adlegid</u> (not yet), SPB current problem |
| CUGA | H | THREATENED AND ENDANGERED ANIMAL MANAGEMENT | Same issue as native aquatic above plus Indiana bat maternity colony potential (none known in park yet but hibernacula present). |
| | | THREATENED AND ENDANGERED PLANT MANAGEMENT | |
| | | VISITORS USE IMPACTS | |
| CUGA | M | WATER RESOURCES MANAGEMENT | Related to air resources. Two streams no longer supporting native trout. |

Page 1 Sec 1 1/1 At 5.4" Ln 28 Col 1 REC TRK EXT OVR

ROAD TRIP!



- Water Resources Assessments

Hydrologic Assessments

- Visit each park
- Talk to resources managers (both natural and cultural) in each park
- Review of STORET data and past work
- Visit and describe all potential WQ sites
- Keep “integrator” notion in mind

Phase II

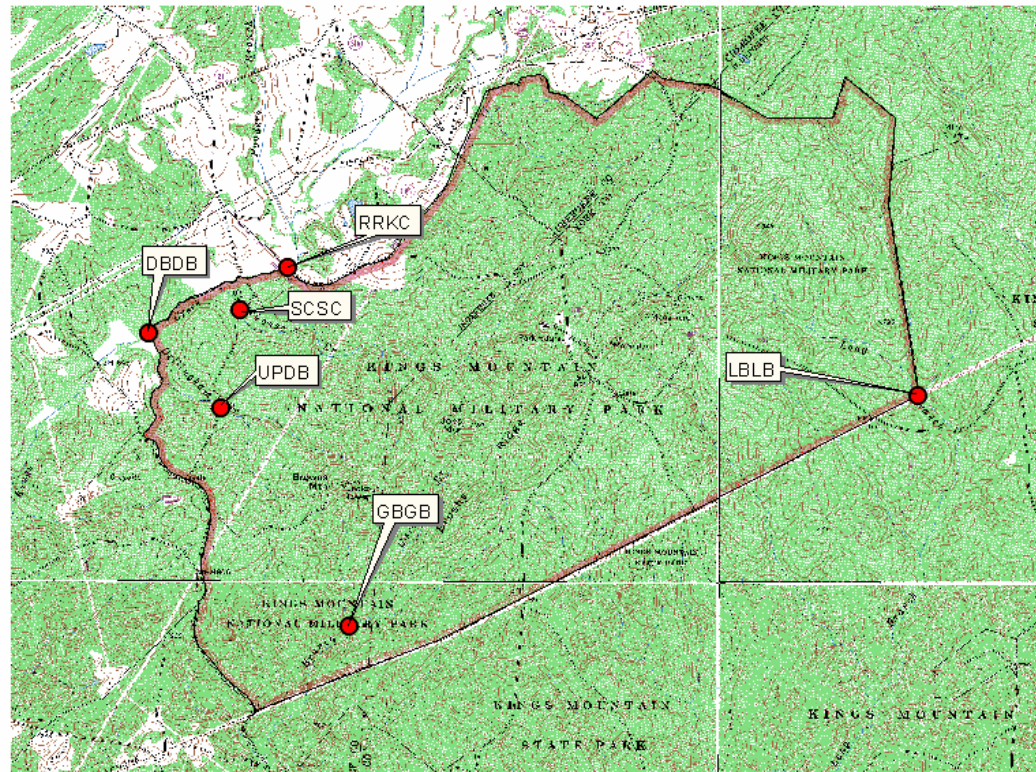


- WQMP Development

Foundation

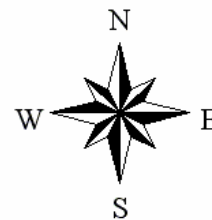
- All park water resources are not equal
- Must be responsive to needs of individual parks
- Must follow established protocols
- This is not rocket-science

KIMO, Water Quality Monitoring Sites



1 0 1 2 3 Miles

- Water Quality Site
- Park Boundary



Phase III

- Protocol and SOP development
- Final WQMP design



WQ Sampling Schedule

| | FY 03 | FY04 | FY 05 | FY 06 | FY 07 | FY 08 |
|------|-------|-------|-------|-------|-------|-------|
| ABLI | | ***** | | ***** | | ***** |
| CARL | ***** | | ***** | | ***** | |
| CHCH | ***** | ***** | | | | |
| COWP | ***** | | ***** | | ***** | |
| CUGA | | | | | ***** | ***** |
| FODO | | ***** | | ***** | | ***** |
| GUCO | | ***** | | ***** | | ***** |
| KIMO | ***** | | ***** | | ***** | |
| LIRI | | | | | ***** | ***** |
| MACA | ***** | ***** | ***** | ***** | ***** | ***** |
| NISI | | ***** | | ***** | | ***** |
| RUCA | | | ***** | ***** | | |
| SHIL | | | ***** | ***** | | |
| STRI | ***** | ***** | | | | |

***** Quarterly samples

***** Bi-monthly samples

***** Monthly non-conditional synoptic samples

A man with long blonde hair and glasses, wearing a red plaid shirt, a dark vest, and leopard-print waders, stands in a shallow stream. He is holding a glass flask with a blue liquid inside and using a pipette to transfer more liquid from the stream into it. The background shows a wooded area with bare trees and a steep bank. The text "Staff Training" is overlaid in yellow on the right side of the image.

Staff Training

Shepard McAninch, KIMO-RRKC,
Kings Mountain, Rockhouse Road Kings Creek, 12-17-2002

Cumberland Piedmont Network

What is working, what is not, and why

- “Custom” WQ plan tailored to meet specific park management needs and meet NPS goals
- Based on USGS NAWQA protocols and sampling schedule
- All water resources are not equal

Samples taken

| | | | |
|------|-----|------|-----|
| ABLI | 20 | CARL | 20 |
| CHCH | 176 | COWP | 24 |
| CUGA | 0 | FODO | 20 |
| GUCO | 6 | KIMO | 42 |
| LIRI | 0 | MACA | 308 |
| NISI | 10 | RUCA | 0 |
| SHIL | 0 | STRI | 110 |

- A total of 740 samples between November 2002 and August 2004

6,660 Field Observations

14,800 Laboratory tests

Problems?

- WQ samples showing up in Nebraska
- New schedule to better accommodate shipment and laboratory timing
- Data management
- WQ Lab

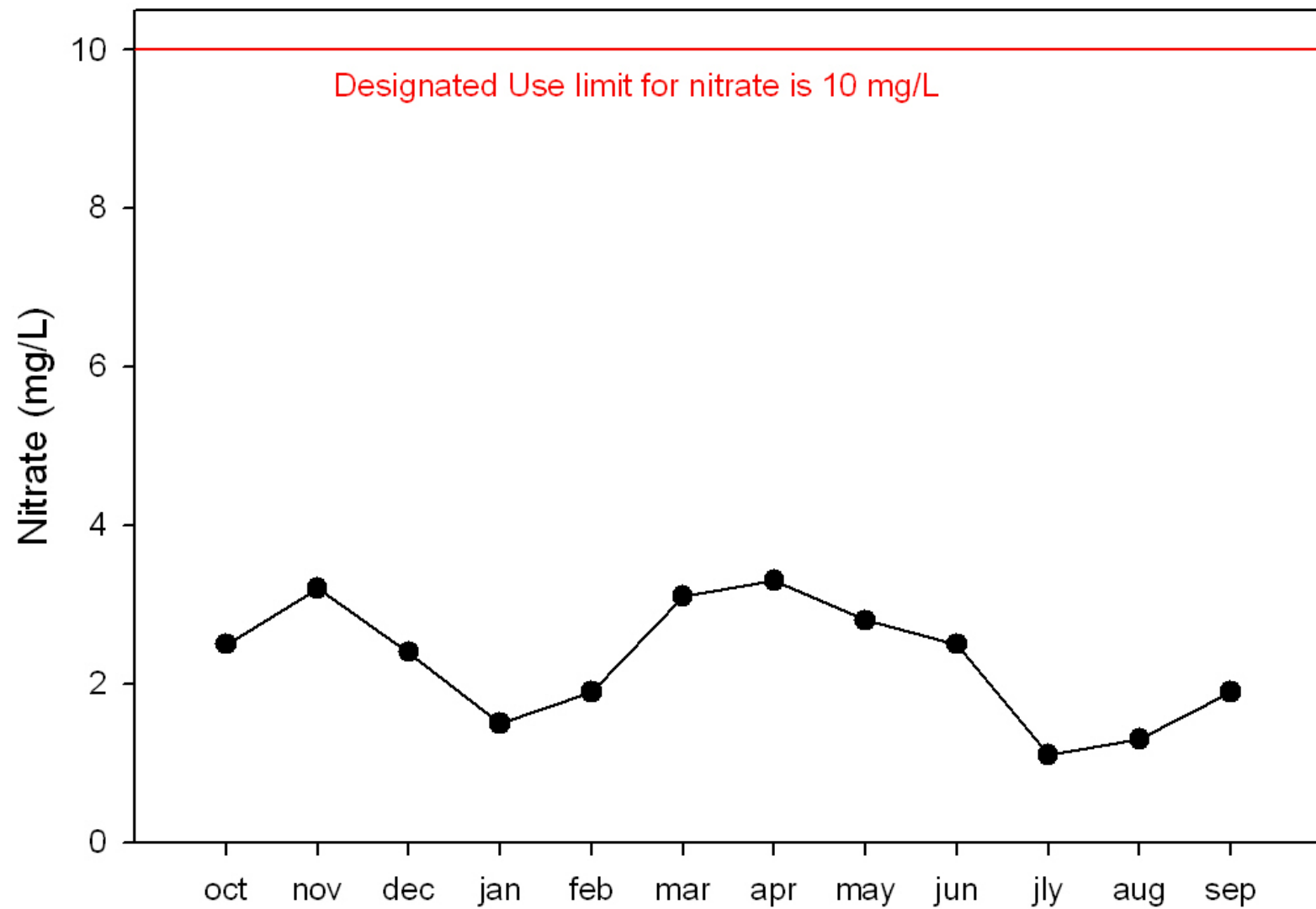
Data Management

- Regardless of how many times we restate the needs and time required for data management, many supervisors do not take it seriously – until there is a problem
- Data management always seems to get the “hind teat”.

WQ Reports

- Tabular data of all results
- Graphic data of key constituents
- Map of all WQ sites per park
- Hopefully a succinct, “in a nutshell” report that summarizes WQ results.

KIMO-DBDB FY03



The WQ Lab

- A few years back, MACA said they wanted to start a WQ lab
- Some WRD cat, (I think his name is Gary) advised that this was a bad idea.
- Guess who is smarter?

